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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,263	10/11/2000	Milan Mrksich	7814/42	8463

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EXAMINER

NAFF, DAVID M

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 01/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/689263

Applicant(s)

MARKSICH et al

Examiner

Naff

Group Art Unit

1651

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 9/30/02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-56 is/are pending in the application.
- Of the above claim(s) 1-18, 37-40 & 45-48 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 19-36, 41-44 & 49-58 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 11 Filed 9/30/02 ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

Office Action Summary

The amendment of 9/30/02 amended the specification, and claims 19 and 41

Claims 1-18, 37-40 and 45-48 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 6 (filed 1/14/02).

Claims examined on the merits are 19-36, 41-44 and 49-58.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant is advised that should claim 41 be found allowable, claim 42 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 42-44 are objected to because of the following informalities: The claims depend on nonelected claims 1, 2 and 8.

Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

Claims 19-36, 41-44 and 49-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 6 of claim 19 and line 2 of claim 41, "and" should be replaced with -- or -- to make clear that the alkanethiol formula and enantiomer thereof are being used alternatively rather than together.

In line 2 of claim 41, "enantimomers" is a misspelling.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

15

Claims 19-36, 41-44 and 49-58 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Luk et al (A3 on 1449 of 9/30/02).

20

The claims are drawn to substrate containing alkanethiolate moieties of formula (5) or an alkanethiol moieties of formula (1) or enantiomers thereof on a surface of gold, and to chip containing the substrate and cells.

25

Luk et al disclose alkanethiol moieties having a T group (mannitol group) as claimed attached to a gold surface to provide a substrate for attaching cells. For example, see Figure 1. The substrate of Luk et al is the same as presently claimed. Using an enantiomer as an alternative to the alkanethiol moiety of Luk et al would have been a matter of obvious since the enantiomer would have been expected to provide the same function as the alkanethiol moiety. Attaching cells to the substrate of

Luk et al inherently provides a chip as required by claims 49-58.

***Claim Rejections - 35 USC § 102***

5        Claims 19, 29, 31, 36 and 41 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chapman et al.

The invention is described above.

See no. 2 of Figure 1 of Chapman et al where a group is shown for an  
10 alkanethiol moiety that is the same as the T group of the claims.  
Providing an enantiomer of the alkanethiol moiety as an alternative would have been a matter of obvious choice since the enantiomer would have been expected to provide the same function.

***Claim Rejections - 35 USC § 103***

15        Claims 29, 36, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrksich et al (A18) in view of Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if necessary in further view of Deng et al (A3) or Hodneland et al (A8) for reasons set forth in the previous office action of 4/23/02.

20        The invention is described above.

Mrksich et al (A18) disclose using alkanethiol or alkanethiolate moieties on a surface of gold as a substrate for proteins or cells.

Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if needed Deng et al (A3) or Hodneland et al (A8) disclose

alkanethiol or alkanethiolate moieties having different groups for adhering protein or cells to a gold surface.

It would have been obvious to select preferred groups for the alkanethiol or alkanethiolate moieties of Mrksich et al in view of the  
5 different groups disclosed by Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if needed Deng et al (A3) or Hodneland et al (A8) contained by alkanethiol or alkanethiolate moieties. Such preferred groups would have inherently provided a monolayer that does not fail a cell patterning test at 12 days as required by claim 29.

10 ***Response to Amendment***

The argument that the references do not disclose a T group as claimed is unpersuasive since the claims do not require a T group as in the formula of claims 19 and 41.

***Claim Rejections - 35 USC § 103***

15 Claims 19-36, 41-44 and 49-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrksich et al (A18), Hodneland et al (A7), Houseman et al (A9) or Sigal et al (A25) in view of Luk et al or Chapman et al.

The invention and references are described above.

20 It would have been obvious to provide the alkanethiol or alkanethiolate moieties of Mrksich et al (A18), Hodneland et al (A7), Houseman et al (A9) or Sigal et al (A25) with a mannitol group as suggested by Luk et al or Chapman et al using alkanethiolates or alkanethiols containing a mannitol group for attaching cells.

***Double Patenting***

Claims 19-36, 41-44 and 49-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-117 of copending Application No. 09/923,760 or  
5 claims 1-41 of copending application 09/797,166 in view of Luk et al or Chapman et al.

It would have been obvious to use as the T group of the alkanethiol or alkanethiolate moiety of the copending application claims, a mannitol group as suggested by Luk et al or Chapman et al using alkanethiolates or  
10 alkanethiols containing a mannitol group for attaching cells. Having the T group as a terminal group would have been obvious since Luk et al and Chapman et al use the T group as a terminal group. An enantiomer of the alkanethiolate or alkanethiol moiety would have been obvious since the enantiomer would have been expected to provide the same function.

15 This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is (703) 308-0520. The examiner can normally be reached on  
20 Monday-Thursday and every other Friday from about 8:30 AM to about 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, a message can be left on voice mail.

Application Number: 09/689,263  
Art Unit: 1651

Page 7

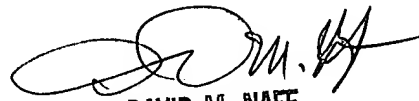
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn, can be reached at telephone number (703) 308-4743.

The fax phone number is (703) 872-9306 before final rejection or  
5 (703) 872-9307 after final rejection.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

10

15 DMN  
1/10/03

  
DAVID M. NAFF  
PRIMARY EXAMINER  
ART UNIT 1651